Rinnai

Installation and User Manual

for

Controllers

BC 70 2A
MC 70 2A
MC 91 1A

TEMPERATURE CONTROLLERS - GENERAL

When deciding on the best position for the temperature controls, the following points should be taken into account.

- Fit the controls out of reach of children. (suggested height from the floor 1.5m)
- Avoid positions where the controllers will become hot e.g. near stoves, ovens and heaters.
- If possible, avoid exposure to direct sunlight or positions where bright lights will make the digital display difficult to read.
- Position away from areas where the controller will be prone to splashing by cooking products such as oils and fats.
- The temperature controllers are water resistant, however they should be positioned away from areas where direct or persistent splashing could occur.
- Refer to the I.E.E electrical wiring regulations current edition for location requirements in shower and bath areas.
- The cables to the temperature controller carry only 12VDC (extra low voltage)
- Cables should run back to the **Infinity** from the temperature controller or cables should run between the controllers then back to the heater. (Parallel connection).

The installation in every application will vary, therefore the temperature controller cable has been provided so that you may cut the length accordingly and fit the spade connectors, ensuring a good connection.

Cables are simply 'piggy-backed' at the **Infinity** or at the primary temperature controller. Polarity is not important when connecting the cables, either colour wire can be connected to either terminal at both the heater or primary temperature controller. If more cable is needed any cable with similar specification to the cable supplied with the controller can be used. Maximum length is 50 metres.

TEMPERATURE CONTROLS - GENERAL

Connecting One or Two Controllers

1. Isolate the power supply

2. Remove the front cover from the Appliance (4 screws) fig. 1.

3. Thread the cable(s) through the cable access hole at the base of the appliance.

4. Connect the spade connectors to the terminals marked "Remote Control" on the printed circuit board (fig.2). Polarity is not important. Either wire colour can be connected to either terminal.

5. Replace cover of the Appliance. Ensure that the screw with the star washer is placed at the bottom right hand corner for earthing purposes.

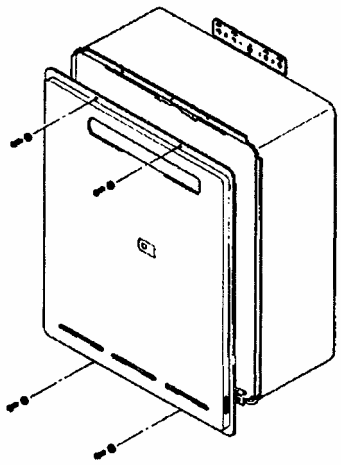


fig.1

Connecting Three Controllers

1. Isolate the power supply

2. Remove the front cover from the Appliance (4 screws) fig.1.

3. Cut the spade connectors from 2 of the controller cables to be connected to the appliance (4 spade connectors should be cut off) and discard. Connect the wires from these two cables and terminate into two new spade connectors as shown in fig.3. Spade connectors are available from your local electrical component retailer.

4. Thread the 3 cables through the cable access hole at the base of the appliance. Connect the 4 spade connectors to the terminals marked "Remote Control" on the printed circuit board (fig.2). Polarity is not important. Either wire colour can be connected to either terminal.

5. Replace cover of the Appliance. Ensure that the screw with the star washer is placed at the bottom right hand corner for earthing purposes

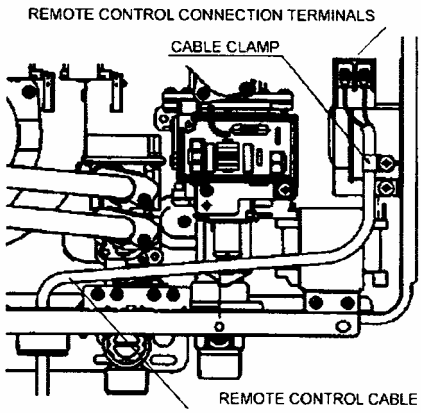


fig.2

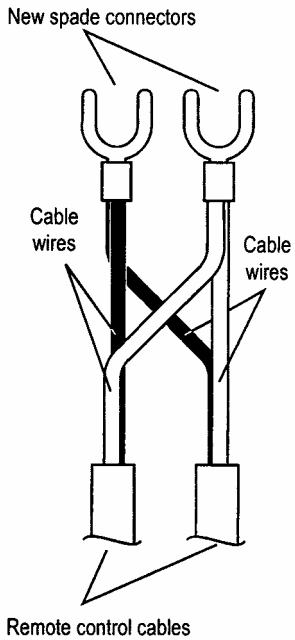


fig. 3

TEMPERATURE CONTROLLERS

The purpose of the Temperature Controllers is to enable the user to have complete control over the hot water unit. Used correctly, the hot water unit will supply hot water at the temperature selected, even when the water flow is varied, or when more than one tap is used. Adjustments to the operation of your hot water unit can be made with any of the Temperature Controllers. Each Temperature Controller can be individually programmed.

Various water temperatures (°C) can be selected as follows:

Kitchen Controller:

37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50, 55°C* (60, 65°C HD)

Bathroom Controller

Hot Water Delivery: 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50°C

Bath fill Delivery: 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48°C

If a temperature 43°C or higher is selected on any Controller and this temperature is then decreased to below 43°C and increased again whilst the water is running, the maximum selectable temperature will become 43°C. This provides additional safety for the consumer.

Suggested temperatures are:

Kitchen 50°C ~ 55°C* (65°C HD) Shower 39°C ~ 43°C Bath fill 39°C ~ 45°C

** This temperature may not be available on all installations*

These temperatures are suggested starting points for selection. You may find higher or lower temperatures are more comfortable. Maintaining lower temperatures helps to save energy. To obtain water temperatures lower than 37°C simply add cold water.

Temperature Controllers are an optional extra. 'Universal' and 'Deluxe' Temperature Controllers can be fitted. Universal Controllers allow temperature selection only. Deluxe Controllers have temperature selection, bath fill and clock functions.

Temperature Controllers allow the temperature to be set from various locations. The temperature selected will be available to all outlets.

Controller Options

Water Heater Model	Controller Options	Kitchen	Bathroom 1	Bathroom 2	Bathroom 3
Infinity 26i or 32e HD50i or HD70e	Deluxe Option 1	MC-70-2A	BC-70-2A	BC-70-2A	MC-91-1A †
	Deluxe Option 2	MC-70-2A	BC-70-2A	MC-91-1A	MC-91-1A
	Universal Option	MC-91-1A *	MC-91-1A	MC-91-1A	MC-91-1A

Note: The maximum available controllers configurations are shown for each model.

† When 3 deluxe controls are installed the option of adding a 4th controller is only available on the Infinity and HD models.

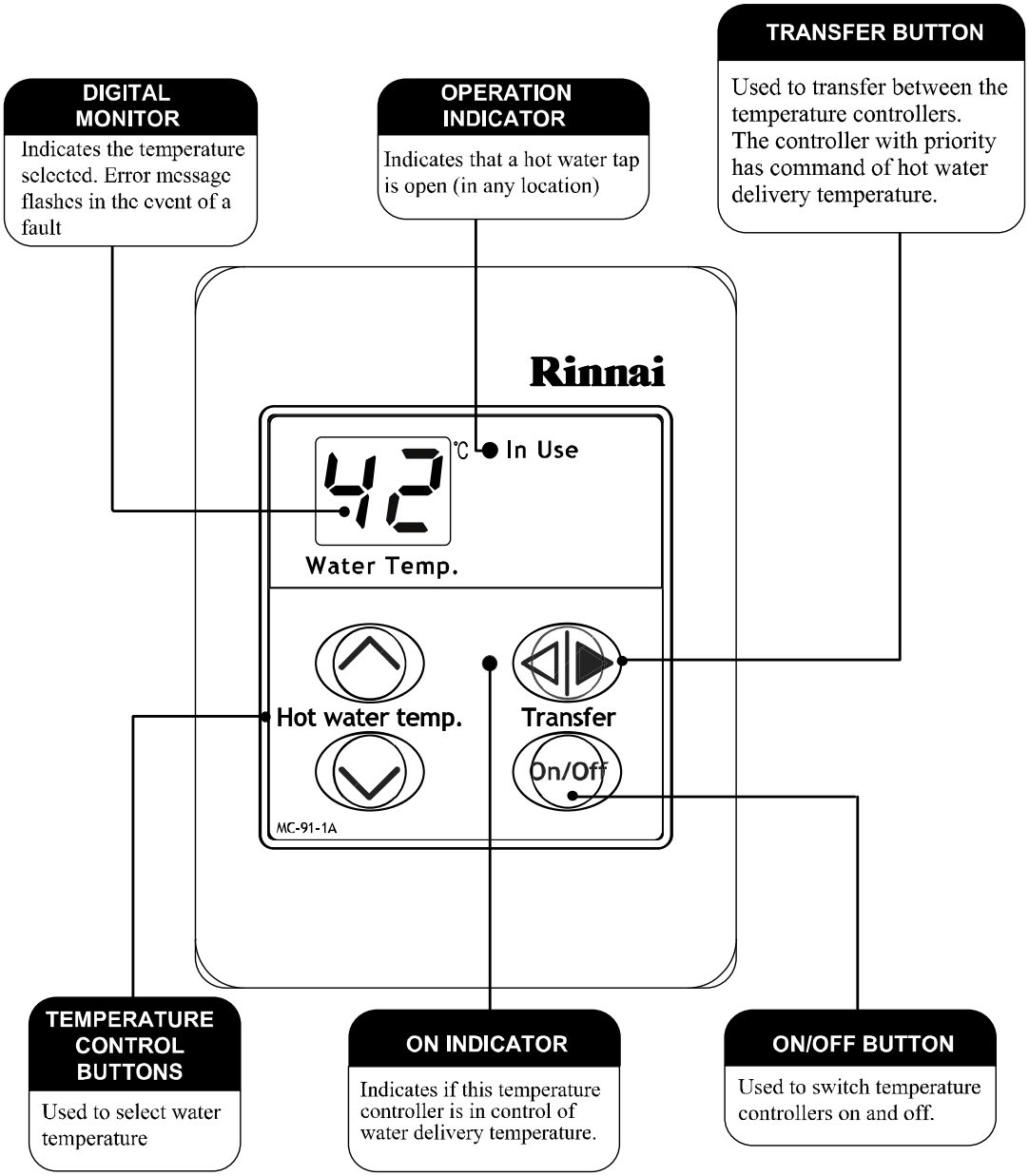
* When a MC-91-1A Temperature Control is used for this application the installer may set this unit as a master controller.

UNIVERSAL TEMPERATURE CONTROLLER

Universal Temperature Controller (MC-91-1A)

Temperature Controllers are not required to operate the appliance they are a feature that provides control of water temperature.

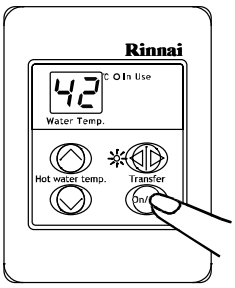
Rinnai Infinity and HD water heaters can be operated with 1, 2, 3, 4 or no Temperature Controllers.


TRANSFER BUTTON
Used to transfer between the temperature controllers. The controller with priority has command of hot water delivery temperature.
DIGITAL MONITOR
Indicates the temperature selected. Error message flashes in the event of a fault
OPERATION INDICATOR
Indicates that a hot water tap is open (in any location)
Rinnai
℃
In Use
42
Water Temp.
Hot water temp.
Transfer
On/Off
MC-91-1A
TEMPERATURE CONTROL BUTTONS
Used to select water temperature
ON INDICATOR
Indicates if this temperature controller is in control of water delivery temperature.
ON/OFF BUTTON
Used to switch temperature controllers on and off.

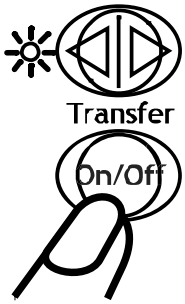
OPERATION WITH UNIVERSAL TEMPERATURE CONTROLLERS

Using 1 Universal Temperature Controller

Press the ON/OFF button on the Temperature Controller.

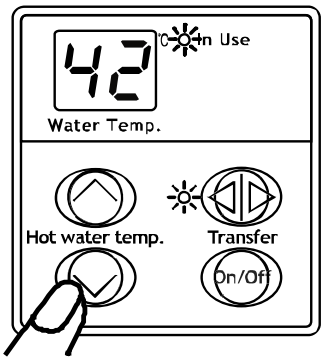


1 The ON indicator will glow on the Temperature Controller. This indicates that the hot water unit is ready to supply hot water when a tap is open.



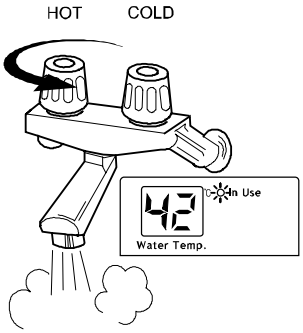
2 **Adjusting Temperature**

Simply press the HOTTER ⌃ or COOLER ⌄ button until the required temperature is displayed on the Digital Monitor.



3 To operate the hot water unit, simply turn any hot water tap on. This will automatically light the burner providing hot water. The red **IN USE** indicator will glow on the Temperature Controller.

If the set temperature is either to hot or cold Press the HOTTER ⌃ or COOLER ⌄ button until the desired temperature is reached



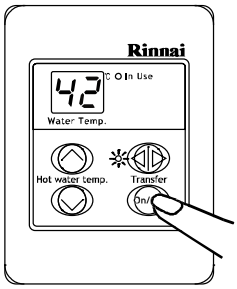
CHECK WATER TEMPERATURE BEFORE USE.
A parent should always check the temperature before a child is placed in contact with hot water.

Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

Using 2 or more Universal Temperature Controllers

Switching the System 'ON':

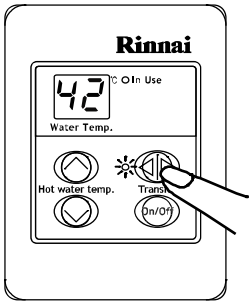
The hot water system and all controllers can be switched ON and OFF from any controller by pressing the 'ON/OFF' Button as shown. When the system is turned ON the water Temperature display will be lit. During normal operation the system is left ON.

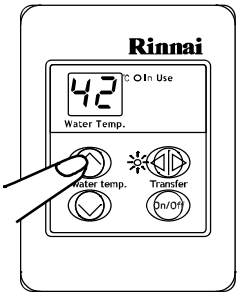


Using Hot Water

1. Ensure the system is switched 'ON'.
   When the system is ON, the temperature displays will be lit. Confirm that the transfer on indicator is lit. If not press the TRANSFER button once. This will transfer priority to this controller which will then have control of the water delivery temperature.

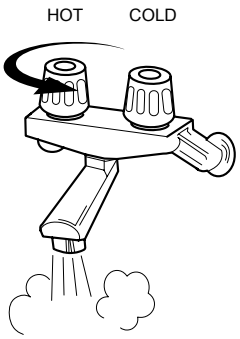
2. Select the desired temperature using the 'hot water temp' buttons. The selected temperature will be displayed on all controller monitors. This is the water temperature which will be supplied to all outlets.

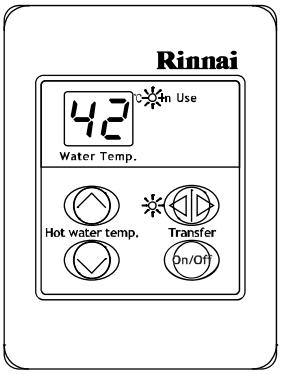




Temperatures no higher than 50ºC should be able to be selected on controllers installed in bathrooms, ensuites or toilets. This is to help reduce the risk of burns from hot water. If this is not the case, the controllers have been incorrectly installed. **CONTACT YOUR INSTALLER.**

3. Open the Hot Water Tap.
   The appliance will be activated and the 'in use' indicator will light up.





Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

TEMPERATURE CONTROLS—PROGRAMMING

Q: Are Four temperature controllers fitted?

If Yes.

You will need to activate the fourth controller.

STEP 1: For the Primary controller only press and hold the **'Transfer'** and **'On/Off'** buttons simultaneously (see fig 2.) until a "beep" is heard (approx. 5 seconds)

STEP 2: Check that the display on all Four controllers is lit and displaying a temperature when switched on. If any ONE of the controllers displays two dashes (see fig 1.) in the display repeat STEP 1.

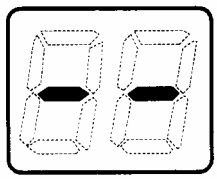


Fig 1.

This completes the activation procedure for this configuration.

If No. (You have three or less controllers)

You will need to program the primary controller to enable the selection of temperatures higher than 50ºC.

STEP 1: For the Primary controller only press and hold the **'Transfer'** and **'On/Off'** buttons simultaneously (see fig 2.) until a "beep" is heard (approx. 5 seconds)

STEP 2: When the Primary controller is switched on it should be possible to select temperatures higher than 50ºC. If not repeat STEP 1.

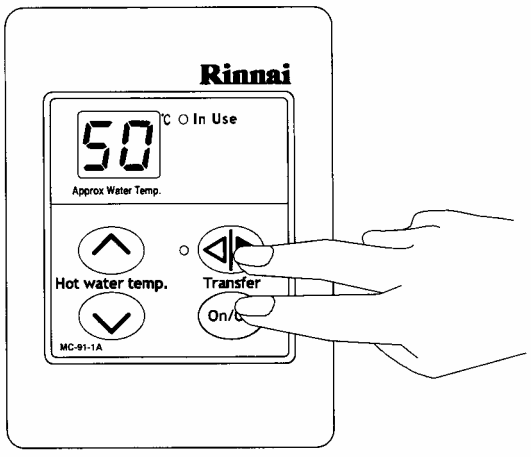


Fig 2.

Note:

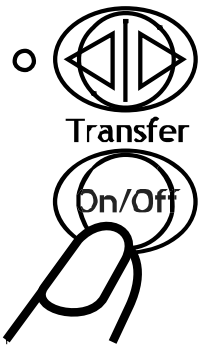
If the primary controller is replaced, repeat STEP 1 above for the new controller.

To TURN OFF your hot water system

Simply press the ON/OFF button on any Temperature Controller (where fitted). This will shut the Infinity down completely including the Temperature Controller digital displays.

The ON indicator will go out.

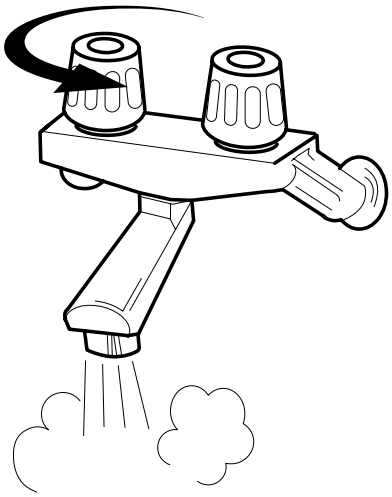
If hot water taps are opened when the unit is OFF, cold water will flow from the taps.



Additional SAFETY features

Whilst the hot water tap is open, the following safety features apply:

- Temperature selection cannot be transferred.
- If a temperature of 43°C or higher selected, and then the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C.
- Other controllers are unable to change the delivery temperature of the water heater.



The temperature of outgoing hot water is constantly monitored by a built-in sensor. If the temperature of the outgoing hot water rises to more than 3°C above the selected temperature shown on the Digital Monitor or the pre-set limit when Temperature Controllers are not fitted, the burner will automatically go out. The red operation indicator will also go out. The burner will ignite again once the outgoing hot water temperature falls to that shown on the Digital Monitor (or the pre-set limit of the Infinity).

Deluxe Kitchen Temperature Controller (MC-70-2A)

This temperature controller is installed in the kitchen. Each button confirms its operation with a beep and / or voice.

DIGITAL MONITOR

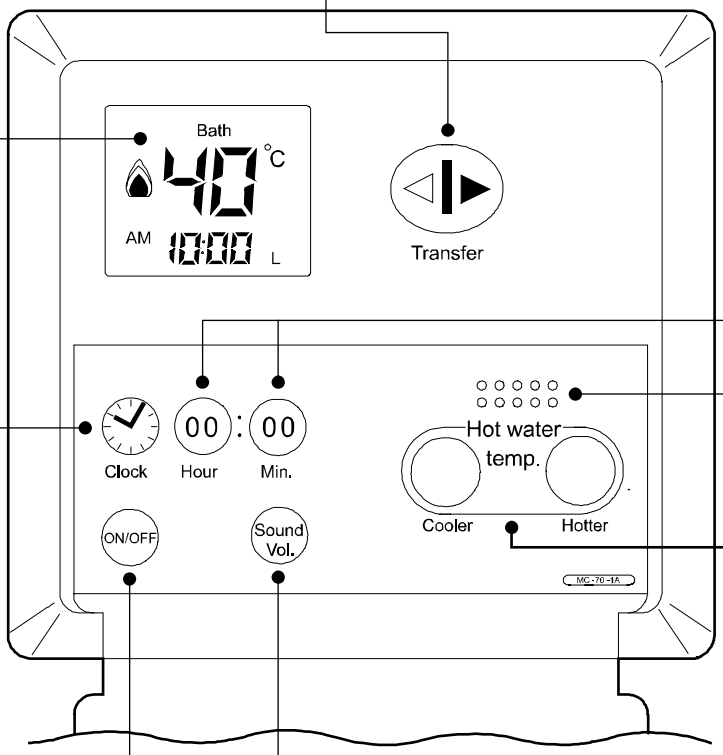
Indicates the hot water temperature, mode of operation and clock.

TRANSFER BUTTON / LIGHT (Green)

Used to transfer 'priority' between the temperature controllers. The controller with priority has command of the water delivery temperature. The light behind the transfer button of the controller that has priority will be illuminated.

HOURS / MINS BUTTONS

Used to select hours and minutes of the clock.



SPEAKER

CLOCK BUTTON

Used to select the clock function.

SOUND VOLUME BUTTON

Used to change the voice volume.

TEMPERATURE CONTROL BUTTONS

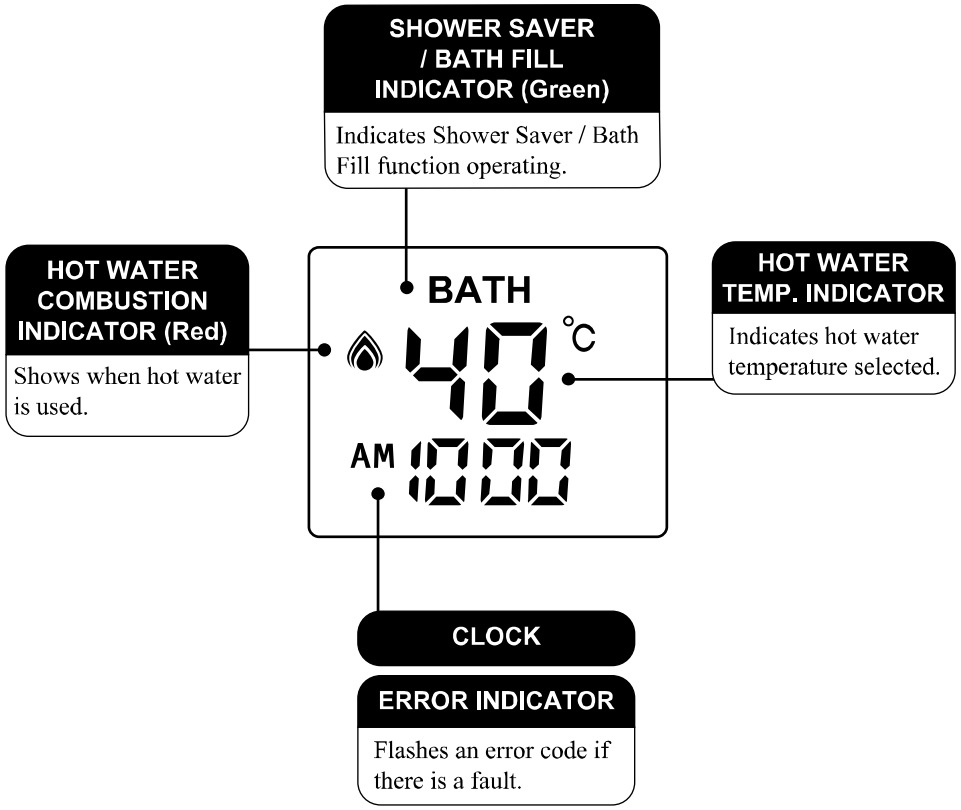
Used to select water temperature, "UP / DOWN" buttons are also located on the lid.

ON/OFF BUTTON

Used to switch temperature controllers on and off.

Be careful not to get water in the speaker as it may cause damage.

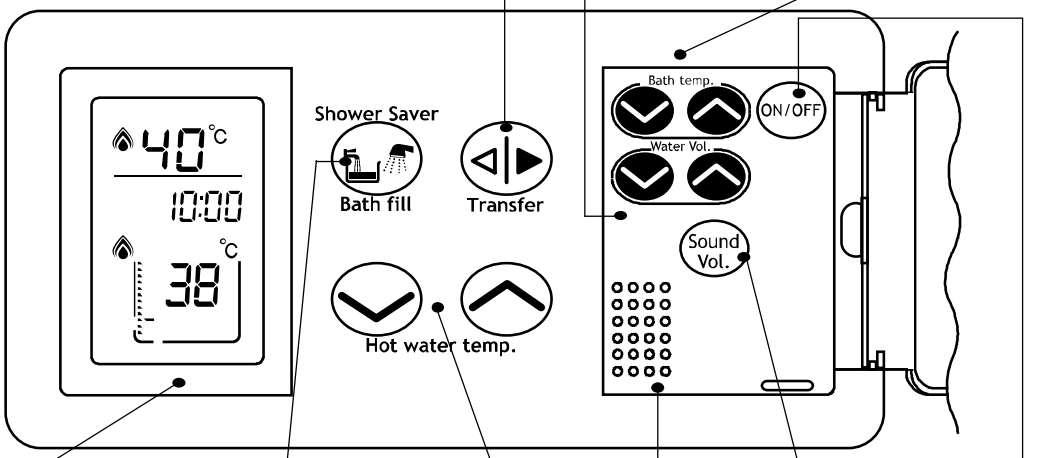
Deluxe Kitchen Temperature Controller Monitor


SHOWER SAVER / BATH FILL INDICATOR (Green)
Indicates Shower Saver / Bath Fill function operating.
HOT WATER COMBUSTION INDICATOR (Red)
Shows when hot water is used.
BATH
40 °C
AM 10:00
HOT WATER TEMP. INDICATOR
Indicates hot water temperature selected.
CLOCK
ERROR INDICATOR
Flashes an error code if there is a fault.

Each time a button is pressed, a ‘beep’ will sound. The ‘beep’ sound and the ‘bath fill complete’ buzzer can be muted by pressing the Temperature Controller Up and Down buttons simultaneously for more than 3 seconds. This can be done for each Temperature Controller. To return to original settings, repeat this step.

Deluxe Bathroom Temperature Controller (BC-70-2A)

This temperature controller is installed in the bathroom. Each button confirms its operation with a beep and / or voice.



TRANSFER BUTTON / LIGHT (Green)

Used to transfer 'priority' between the temperature controllers. The controller with priority has command of the water delivery temperature. The light behind the transfer button of the controller that has priority will be illuminated.

WATER VOLUME BUTTONS

Used to select Shower Saver / Bath Fill volumes.

BATH / SHOWER TEMP. BUTTON.

Used to select Shower Saver / Bath Fill temperature.

DIGITAL MONITOR

Indicates the hot water temperature, Shower Saver / Bath Fill temperature, Shower Saver / Bath Fill volume, and the mode of operation.

SHOWER SAVER / BATH FILL BUTTON (Orange)

Used to select Shower Saver / Bath Fill function.

TEMPERATURE CONTROL BUTTONS

Used to select water temperature.

SPEAKER

SOUND VOLUME BUTTON

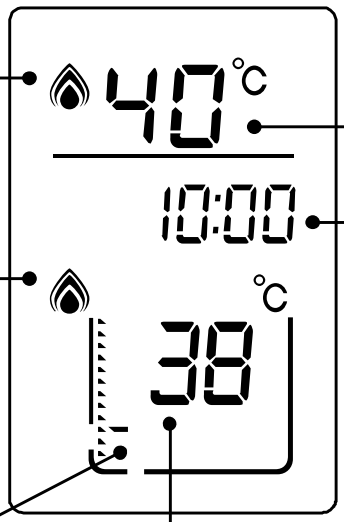
Used to change the voice volume.

ON/OFF BUTTON

Used to switch temperature controllers on and off.

Be careful not to get water in the speaker as it may cause damage.

Deluxe Bathroom Temperature Controller Monitor



HOT WATER COMBUSTION INDICATOR (Red)

Shows when hot water is used.

HOT WATER TEMP. INDICATOR

Indicates hot water temperature selected.

CLOCK

SHOWER / BATH COMBUSTION INDICATOR (Red)

Shows when Shower Saver / Bath Fill function has been selected and the shower is running or the bath is filling.

ERROR INDICATOR

Flashes an error code if there is a fault.

REMAINING WATER VOLUME INDICATOR

Indicates how much water still needs to flow for the selected Shower Saver / Bath Fill volume. (Decreases while shower runs or bath fills)

WATER LEVEL INDICATOR

Indicates Shower Saver / Bath Fill volume selected.

SHOWER SAVER / BATH FILL TEMP. INDICATOR

Indicates Shower Saver / Bath Fill temperature selected.

WATER VOLUME INDICATOR

Indicates water volume selected (reverts to Shower Saver / Bath Fill temperature selected.

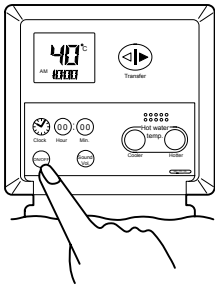
- Each time a button is pressed, a ‘beep’ will sound.
- The ‘beep’ sound and the ‘bath fill complete’ buzzer can be muted by pressing the Temperature Controller Up and Down buttons simultaneously for more than 3 seconds. This can be done for each Temperature Controller.
  To return to original settings, repeat this step.

Using 1 Deluxe Controller

When one Deluxe Temperature Controller is required, the kitchen model must be used (MC-70-2A).

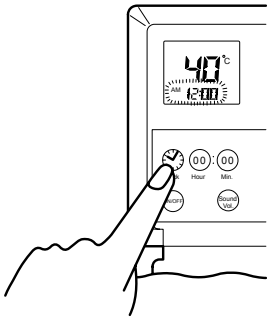
Switching the system ON

The hot water system and controller can be switched on and off pressing the 'ON/OFF' button as shown. When the system is turned on, the monitor will be lit. During normal operation the system is left on.



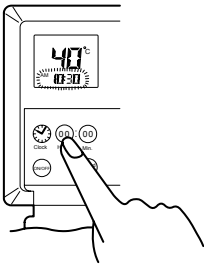
Setting the Clock

The clock is of the 12 hour AM/PM type.

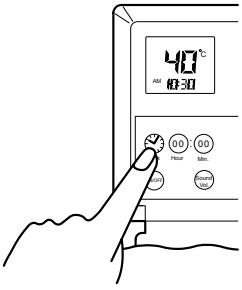


1. Press the 'Clock' button. The digital monitor will flash AM 12:00.

2. Set the time using the 'Hour' and 'Min.' buttons. The time is displayed on the monitor as the buttons are pressed. The numbers on the monitor will continuously change if you keep the buttons depressed. When you get close to the desired time, press the button intermittently.



3. Press the 'Clock' button again to activate the clock.



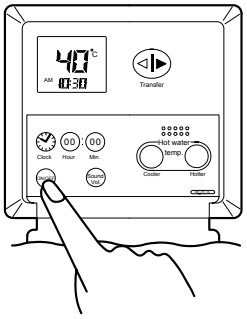
The time is always displayed regardless of whether the Temperature Controller is turned ON or OFF. The clock may need to be reset after a power failure.

Setting the Sound Volume

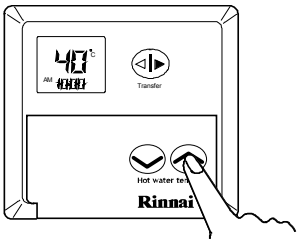
The 'Sound Vol.' Button located behind the flip panel is **not used** when one Kitchen Controller is connected.

Using Hot Water

The hot water delivery temperature can be controlled from the Kitchen Controller (MC-70-2A).

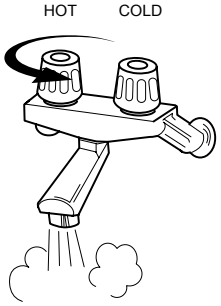


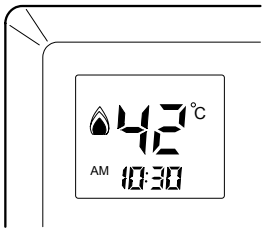
1. Ensure the system is switched ON. If not, press the 'ON/OFF' button behind the flip panel once. The 'Transfer' button will light up.



2. Select the desired temperature using the 'Hot water temp.' buttons. The selected temperature will be displayed on the controller monitor.

3. Open the hot water tap. The hot water unit will activate and the red combustion symbol will light up on the monitor.





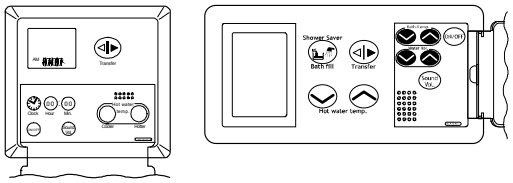
CHECK WATER TEMPERATURE BEFORE USE.
A parent should always check the temperature before a child is placed in contact with hot water.

Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

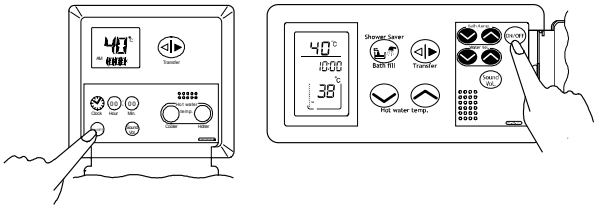
Using 2 Deluxe Controllers

When 2 Deluxe Temperature Controllers are used, they must be models MC-70-2A (Kitchen) and BC-70-2A (Bathroom).



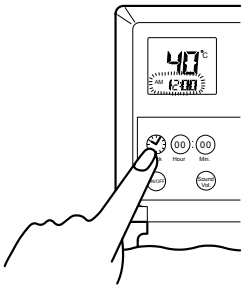
Switching the System ON

The hot water system and both controllers can be switched on and off from either controllers by pressing the 'ON/OFF' button as shown. When the system is turned on, the monitor will be lit. During normal operation the system is left on.

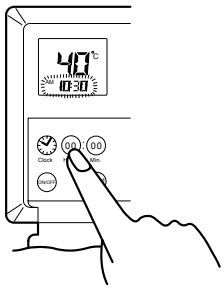


Setting the Clock

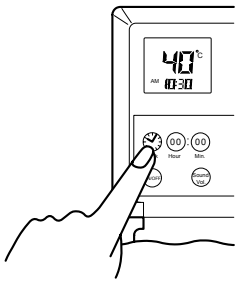
The clock is of the 12 hour AM/PM type and is set on the Kitchen Controller (MC-70-2A).



1. Press the 'Clock' button. The digital monitor will flash AM 12:00.



2. Set the time using the 'Hour' and 'Min.' buttons. The time is displayed on the monitor as the buttons are pressed. The numbers on the monitor will continuously change if you keep the buttons depressed. When you get close to the desired time, press the button intermittently.



3. Press the 'Clock' button again to activate the clock.

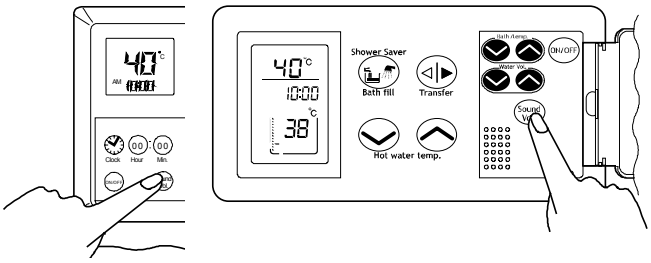
The time displayed on the Kitchen Controller is automatically displayed on all Bathroom Controller(s) when the Bathroom Controller(s) are ON. If the controllers are OFF, the time is only displayed on the Kitchen Controller. The clock may need to be reset after a power failure.

OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

Setting the Sound Volume

The sound volume for all Temperature Controllers can be set individually. Note that this can be done with the Temperature Controllers switched off.

Press the 'Sound Vol.' Button located behind the flip panel.

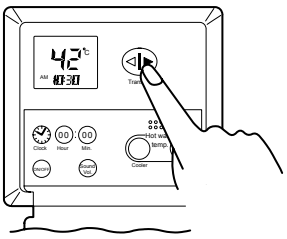


The volume will change as follows:

Voice Volume	
Initial Setting	Medium
Press Once	High
Press Again	Off
Press Again	Low

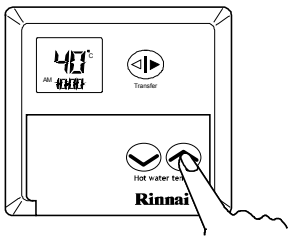
Using Hot Water

The hot water delivery temperature can be controlled from either the Kitchen Controller (MC-70-2A) or the Bathroom Controller (BC-70-2A).



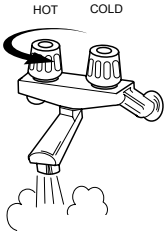
Deluxe Kitchen Controller

1. Ensure the system is switched on. When the system is ON, the monitors will be lit. Confirm that the 'Transfer' button is lit. If not, press the 'Transfer' button once.



2. Select the desired temperature using the 'Hot water temp.' buttons. The selected temperature will be displayed on both the Kitchen and Bathroom Controllers at the top of each monitor.

3. Open the hot water tap. The hot water unit will activate and the red combustion symbol will light on both the kitchen and bathroom monitors.

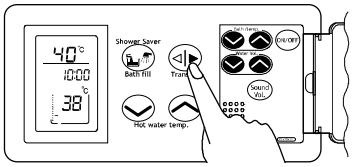


CHECK WATER TEMPERATURE BEFORE USE.
A parent should always check the temperature before a child is placed in contact with hot water.

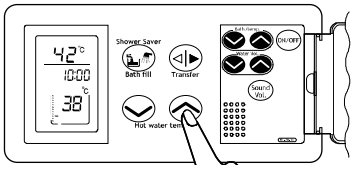
Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

Deluxe Bathroom Controller

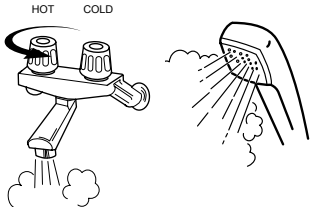


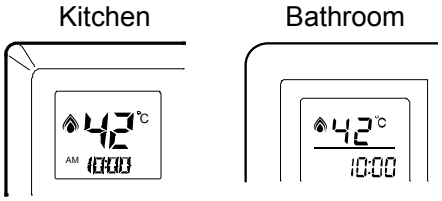
1 Ensure the system is switched on. When the system is ON, the monitors will be lit. Confirm that the 'Transfer' button is lit. If not, press the 'Transfer' button once.



2 Select the desired temperature using the 'Hot water temp.' buttons. The selected temperature will be displayed at the top of all controller monitors.

3 Open the hot water tap. The hot water unit will activate and the red combustion symbol will light on both bathroom and kitchen monitors.





CHECK WATER TEMPERATURE BEFORE USE.
A parent should always check the temperature before a child is placed in contact with hot water.

Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

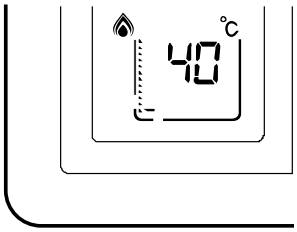
The 'Shower Saver / Bath fill' function enables a shower to be run for desired period or a bath to be filled to the desired level at the desired temperature automatically.

There are 2 steps to perform :

Step 1. Program the shower / bath volume and temperature into the Bathroom Controller(s) (BC-70-2A).
Step 2. Activate the automatic 'Shower Saver / Bath fill' function and follow the voice prompts.

When using the 'Shower Saver / Bath fill' function to fill a bath for the first few times, it is recommended that you are present during the filling process.

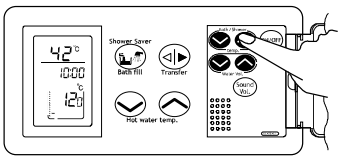
Step 1 - Programming the bath volume and temperature



When the controllers are first turned on, the default shower / bath fill temperature is 40°C and the shower / bath volume is 100 litres (indicated by the first level marker at the bottom of the monitor). The shower / bath volume can then be changed up to a maximum of 400 litres. These settings are displayed at the bottom of the Bathroom Controller monitor and can be changed by the user as described on the next page.

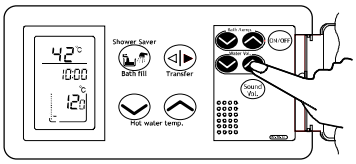
OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

(a) Ensure the system is switched on. When the system is ON, the monitors will be lit. Confirm that the 'Transfer' button is lit. If not, press the 'Transfer' button once.



(b) Select the desired temperature using the 'Shower / Bath temp.' buttons located behind the flip panel. The selected temperature will be displayed on the bottom of the bathroom controller monitor and will remain until it is next changed.

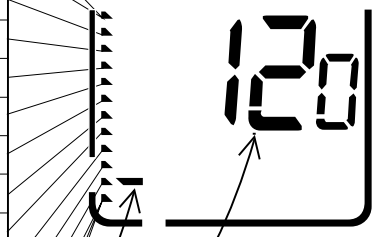
(c) Select the desired shower / bath volume using the 'Water Vol.' Buttons located behind the flip panel. The selected volume will be displayed at the bottom of the bathroom controller monitor numerically, and graphically by the long bar against the level markers. During the first bath fill, it is recommended that the lowest bath fill volume of 30 litres is used. During subsequent bath fills this can be increased depending on the volume of your bath and the desired level.



The relationship between shower / bath volume in litres and the position of the long bar against the level markers is as follows.

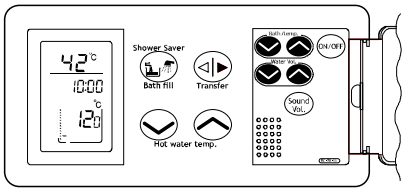
Eg. 120 litres – denoted numerically and by the second level marker from the bottom of the monitor, as shown below.

Volume (L)	Position of long bar
400	12
350	12
300	11
280	10
260	9
240	8
220	7
200	6
180	5
160	4
140	3
120	2
100	1
60	1
30	1



Remember that the bath level markers on the display are not a true representation of your bath. ie. the 'half-way' mark on the monitor is not necessarily the 'half-way' mark on your bath. The average bath size is 160 litres.
Be careful not to overfill the bath!

(d) After approx. 5 seconds, the numeric volume displayed will revert to the shower saver / bath fill temperature previously set. The long bar on the level markers will remain.

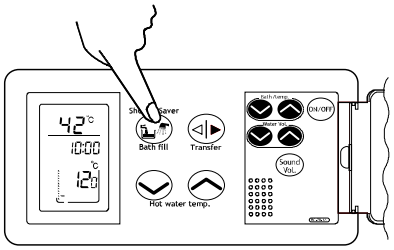


OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

Step 2 – Activate the automatic Shower saver / Bath fill function and follow the voice prompts.

(a) Ensure the system is switched on. When the system is ON, the monitors will be lit. Confirm that the 'Transfer' button is lit. If not, press the 'Transfer' button once.

(b) Press 'Shower Saver / Bath fill' button. The 'Shower Saver / Bath fill' button will light up and the buzzer will sound. The 'Bath' indicator on the Kitchen Controller monitor will light up. The voice will say "The hot water system is ready. Open the hot water tap."



(c) Open the hot water tap for the shower or bath. The combustion indicator on all Temperature Controller(s) will light up and the shower will run or the bath will start to fill.

CAUTION

CHECK WATER TEMPERATURE BEFORE USE.
A parent should always check the temperature before a Child is placed in contact with hot water.

NOTE

During Shower Saver / Bath fill, the time display on the Bathroom Controller will show the remaining shower / bath fill volume and will 'count down' the volume remaining.

If you wish to stop the water flow whilst the shower saver / bath fill function is in operation, simply press the 'Shower Saver / Bath fill' button. The 'Shower Saver / Bath fill' button will flash and the voice with say "Hot water is not available; Turn off all hot water taps and push the 'Bath fill' button". Follow these instructions.

(d) When the shower / bath fill is finished to the programmed volume & temperature (see 'Step 1'):
- The flow from the shower / bath hot water tap will stop;
- The 'Shower Saver / Bath fill' button on the Bathroom Controller(s) and the 'Bath' indicator on the Kitchen Controller monitor will flash;
- The buzzer will sound;
- The voice will say "Bath fill is complete. Turn off the bath hot water tap and push the Bath fill' button."

(e) **IMPORTANT – When filling a bath, close the hot water tap for the bath when the bath is full**. This is very important to prevent over filling of the bath.

(f) Press the 'Shower Saver / Bath fill' button. This is also important. It tells the hot water unit that the customer is aware that the shower or bath fill function has been completed and that the hot water tap for the shower or bath has been shut. The hot water unit will not allow hot water to flow from any fixture until the 'Shower Saver/ Bath fill' button has been pressed.

The 'Shower Saver / Bath fill' button light on the Bathroom Controller and the 'Bath' indicator on the Kitchen Controller monitor will go out.

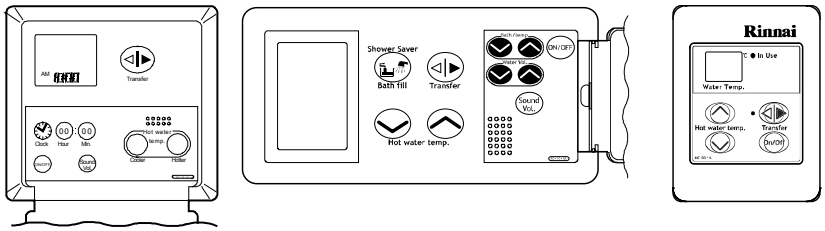
CAUTION

NEVER LEAVE YOUNG CHILDREN UNATTENDED IN THE BATH.
When using the 'Shower saver / Bath fill' function, ALWAYS close the hot water tap for the bath after the bath has filled and flow has stopped.

OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

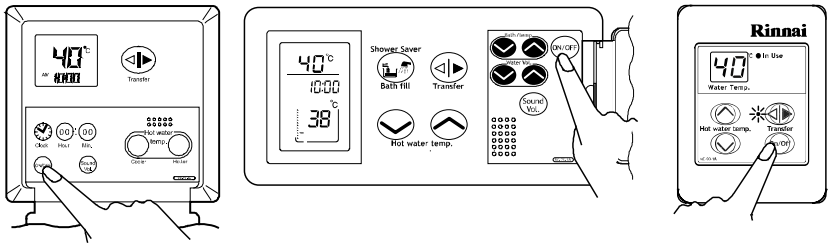
Using 2 Deluxe Controllers and 1 Universal Controller

When 2 Deluxe Temperature Controllers are used, they must be one MC-70-2A (Kitchen), one BC-70-2A and one MC-91-1A (Bathrooms 1 & 2)



Switching the System On

The hot water system can be switched on and off from any controller by pressing the 'ON/OFF' button as shown. When the system is turned on, the monitors will be lit. During normal operation the system is left on.



Setting the clock

See page 13 for details on setting the clock.

Setting the Sound Volume

See page 16 for details on setting the sound volume.

Using Hot Water

The hot water delivery temperature can be controlled from either the Kitchen Controller (MC-70-2A), Bathroom Controllers (BC-70-2A) or Universal Controller (MC-91-1A). See pages 16 to 17 for details on setting the hot water delivery temperature for the Kitchen and Bathroom Controllers.

Shower Saver / Bath Fill Function

See pages 17 to 19 for details on the Shower Saver / Bath fill function. With two or more Bathroom Controllers fitted (one in each bathroom) only one bath can be filled at a time.

CHECK WATER TEMPERATURE BEFORE USE.

A parent should always check the temperature before a child is placed in contact with hot water.

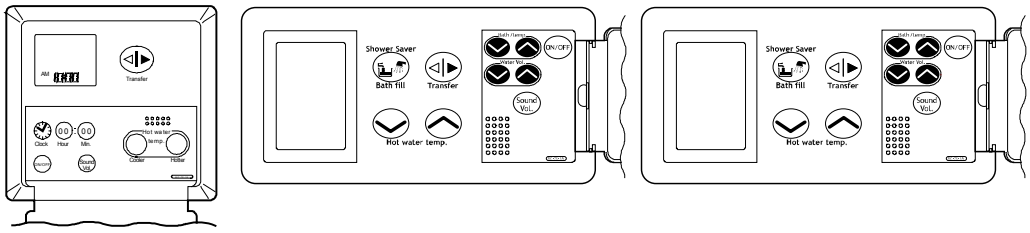
Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

Using 3 Deluxe Controllers

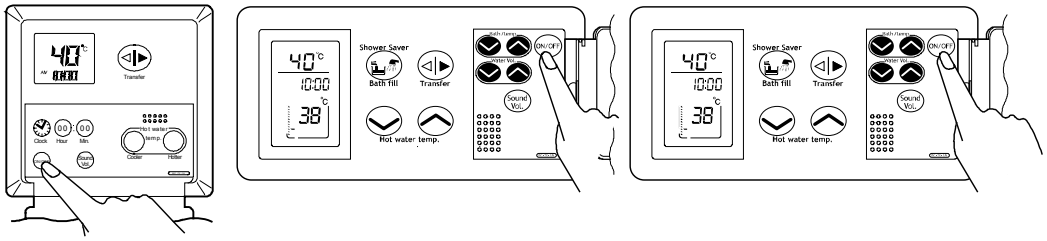
(Option available with Infinity and HD models)

When 3 Deluxe Temperature Controllers are used, they must be one MC-70-2A (Kitchen) and two BC-70-2A (Bathrooms 1 & 2)



Switching the System On

The hot water system can be switched on and off from any controller by pressing the 'ON/OFF' button as shown. When the system is turned on, the monitors will be lit. During normal operation the system is left on.



Setting the clock

See page 13 for details on setting the clock.

Setting the Sound Volume

See page 16 for details on setting the sound volume.

Using Hot Water

The hot water delivery temperature can be controlled from either the Kitchen Controller (MC-70-2A) or Bathroom Controllers (BC-70-2A). See pages 16 to 17 for details on setting the hot water delivery temperature for the Kitchen and Bathroom Controllers.

Shower Saver / Bath Fill Function

See pages 17 to 19 for details on the Shower Saver / Bath fill function. With two or more Bathroom Controllers fitted (one in each bathroom) only one bath can be filled at a time.

CHECK WATER TEMPERATURE BEFORE USE.
A parent should always check the temperature before a child is placed in contact with hot water.

Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

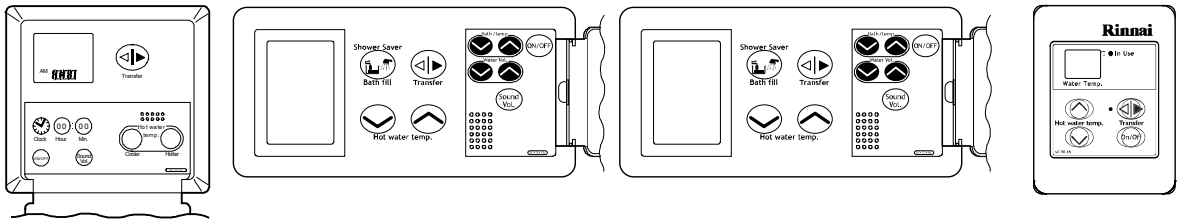
Repeat the relevant procedures above for the third (Bathroom) Controller.

OPERATION WITH DELUXE TEMPERATURE CONTROLLERS

Using 3 Deluxe Controllers and 1 Universal Controller

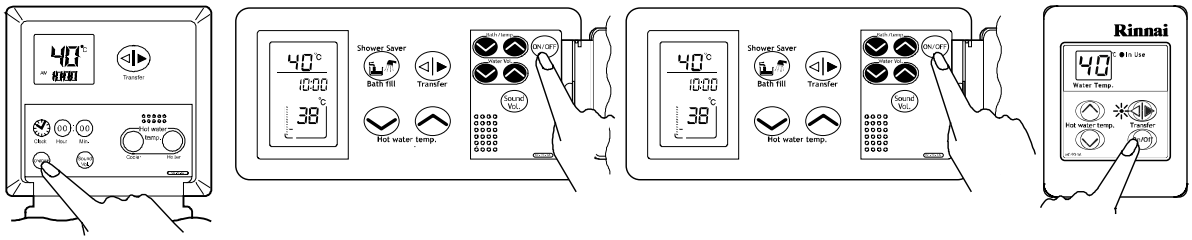
(Option available with Infinity and HD models)

When 4 Temperature Controllers are used, they must be one MC-70-2A (Kitchen), two BC-70-2A (Bathrooms 1 & 2) and one MC-91-1A (Bathrooms 3)



Switching the System On

The hot water system can be switched on and off from any controller by pressing the 'ON/OFF' button as shown. When the system is turned on, the monitors will be lit. During normal operation the system is left on.



Setting the clock

See page 13 for details on setting the clock.

Setting the Sound Volume

See page 16 for details on setting the sound volume.

Using Hot Water

The hot water delivery temperature can be controlled from the Kitchen Controller (MC-70-2A), Bathroom Controller (BC-70-2A) or Universal Controller (MC-91-1A). See pages 16 to 17 for details on setting the hot water delivery temperature for the Kitchen and Bathroom Controllers.

Shower Saver / Bath Fill Function

The 'Shower saver / Bath fill' function can only be used on Temperature Controller BC-70-2A. See pages 17 to 19 for details on the 'Bath fill' function.

CHECK WATER TEMPERATURE BEFORE USE.

A parent should always check the temperature before a child is placed in contact with hot water.

Consumer safeguards: With the hot water tap open and a temperature of 43°C or higher selected, if the temperature is decreased to below 43ºC, and then raised again the maximum available temperature will be 43°C, in addition temperature 'priority' cannot be transferred between controllers.

Repeat the relevant procedures above for the third (Bathroom) controller.

Maintenance Monitor / Error History

This feature is available where the appliances are connected with a deluxe controller (MC70 or BC70). This will enable service personnel to locate the maintenance history and faulty components, with the appliance in operation.

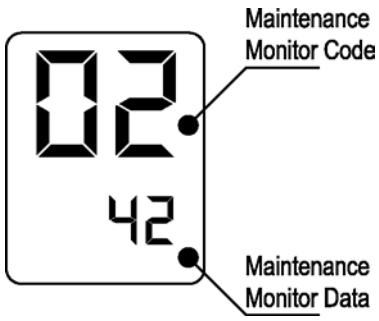
NB. When the maintenance information, error history is shown, use only one controller. If two or more remote controls are used at the same time, it may not operate correctly.

To display Maintenance Information

16. With the controller in the "OFF" position press the Water Temperature "DOWN" (Cooler) button while holding the "ON/ OFF" button to activate the maintenance monitor. Press the "ON/ OFF" button a second time to set the controller in the "ON" mode. This feature can now be used with the appliance in operation.

17. The maintenance number will be shown in the Water Temperature display.

18. Data will be shown in the Clock display.



19. To select the required maintenance number, press the Water Temperature "UP" and "DOWN" buttons.

    Note: Infinity 26i and HD50i use Maintenance Numbers 1-12.

Display Monitor Contents			
No.	Contents	Units	Data Range
01	Water flow sensor recognition flow (Example 123 = 12.3L/min).	0.1L/min	0~400
02	Hot water Outlet thermistor temperature (Example 20 = 20° C)	° C	0~999
03	Hot water combustion time (Example 6 = 600 hours)	100 hours	000~999
04	Hot water operation frequency (Example 6 = 600 Operations)	100	0~999
05	Hot water fan frequency	Hz pulses/sec	0~999 ***Note 1**

***Note 1** Fan Frequency rpm Conversion

(rpm) = (Hz) x15

06	Remote control connection	none	0 or 1 ***Note 2**

***Note 2** Remote Control Connections

Bathroom Remote

Additional remote Kitchen remote

"0 1 1"

Controls connected	Display
No	"0"
Yes	"1"

07	Water flow servo present recognising positioning	None	0~2 ***Note 3**

***Note 3** Water Flow Servo Positioning

Servo Position	Open	Centre	Closed
Display	**"1"**	**"0"**	**"2"**

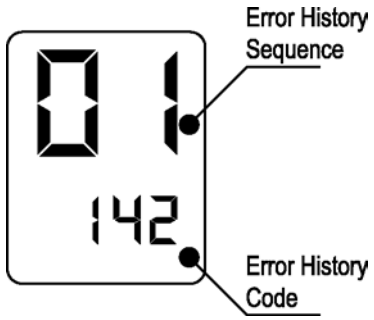
08	Inlet water temperature (PCB recognition value) (Example 25 = 25° C)	° C	0~999
09	Hot water fan current flow value (Example 6 x 10 = 60 mA)	10 mA	0~999
10	Bath fill amount (this counts the litres during bath fill operation).	Litres	0~999
11	Heat exchanger exit thermistor temperature Example 55 = 55° C)	° C	0~999
12	Bypass servo present recognition positioning (Example 0 = Closed 160 = Half open 320 = Open	Degrees	0~320

To return to normal operation

- Press the ON/OFF button again while holding down the Water Temperature "DOWN" (Cooler) button.

Error History

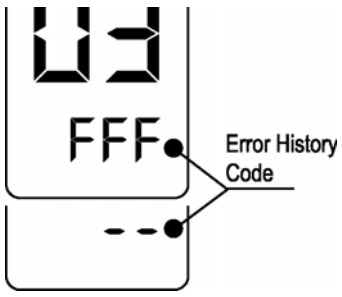
To Display Error Memory (History)
(This feature will show the last 10 faults in sequence)



1. Turn off at the ON/OFF button. (This can be done during operation)

2. Press the ON/OFF button while holding the Water Temperature "UP" (Hotter) button.

   - The Sequence will be shown in the Water Temperature display.
   - Error Code will be shown in the Clock display. (See service Manual for error codes).
   - Where there are less than a total of 9 errors, "FFF" or " - - " will be displayed in the Clock display.



To return to normal operation.

- Press the ON/OFF button again while holding the Water Temperature "UP" (Hotter) button.
- This feature will automatically shut down after 3 minutes.